Patents
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:	Confirmation Number: 7671
Johannes Hendrikus van Lith et al.	Group Art Unit: 3682
Serial No.: 10/619,398	Examiner: Charles, Marcus
Filed: 15 July 2003	
For: **TRANSVERSE ELEMENT FOR A DRIVE BELT FOR A CONTINUOUSLY VARIABLE TRANSMISSION**	

AMENDED APPEAL BRIEF

MAIL STOP APPEAL BRIEF-PATENTS
Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Atlanta, GA 30308-2216
13 August 2007

Sir:

The claimed invention is directed to a transverse element of a drive belt for a continuously variable transmission. The transverse element has, among other things, a transition region comprising two different curvature radii. The invention presents important advantages over prior art approaches, without incurring drawbacks inherent in the prior art configurations. The references cited by the Examiner are but examples of disadvantageous prior art arrangements of the transverse elements, and fail to disclose a transition region comprising two different curvature radii. Pursuant of the provisions of 37 C.F.R. § 1.191-1.198, this brief

appeals the *Office Action*, marked *Final*, from Primary Examiner Marcus Charles of Art Unit 3682, dated 28 November 2006.

In response to the *Final Office Action*, and upon the 27 February 2007 *Notice of Appeal* filing, Appellant submits herewith its *Appeal Brief*, with reference to the above-identified patent application, together with authorization to charge any fees under 37 CFR §1.17, and in conformance with the requirements of 37 CFR §1.192(c)(1-9).

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1. REAL PARTY IN INTEREST

The real party in interest of the application is Van Doorne's Transmissie B.V. of the Netherlands, the assignee of record, which is a subsidiary of the Bosch Group.

2. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences in connection with the present application are known to either Appellant, Appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1-21, the only Claims in the application, are pending, and all stand finally rejected by the Examiner. Claims 1-21 are all on appeal.

4. STATUS OF AMENDMENTS

No amendments have been filed subsequent the 28 November 2006 *Final Office Action.*

5. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is a transverse element of a drive belt for a continuously variable transmission having a transition region of varying curvature radii. This novel and non-obvious element is missing from the cited art.

In this *Summary*, all references to the *Specification* refer to the original *Specification* filed on 15 July 2003, and all references to the *Drawings* refer to the *Replacement Drawing Sheets* filed 17 September 2004.

The general design of the continuously variable transmission of the present invention is similar to that known in the prior art in that it comprises two pulleys having an at least partially conical contact surface for pairwise enclosing of the drive belt. Each pulley has two pulley sheaves. The drive belt comprises two endless carriers and transverse elements, which are placed against each other in axial direction of the drive belt, wherein adjacent transverse elements are tiltable relative to each other about a contact line. The transverse elements on both sides are provided with a supporting surface for supporting a carrier, which supporting surface transforms into a pulley sheave contact surface through a transition region. (*Specification, Page 1, Lines 9-17).*

The transverse elements are designed for application in a drive belt for a continuously variable transmission. The drive belt comprises two bundles of endless bands being shaped like a closed loop, which function as carriers of a number of transverse elements. The transverse elements are continuously arranged along the entire length of the bands in order to transmit forces, which are related to a movement of the drive belt during operation. (*Specification, Page 1, Lines 19-23).*

The transverse elements are on both sides provided with recesses for at least partially receiving the bundles of bands. Further, the transverse elements comprise supporting surfaces for supporting the bundles of bands. *(Specification, Page 1, Lines 24-26).*

Furthermore, for the purpose of contact between the transverse elements and the pulley sheaves of the continuously variable transmission, the transverse elements on both sides are provided with pulley sheave contact surfaces, which are divergent in the direction of the supporting surfaces. A supporting surface and a pulley sheave contact surface being situated at one side of a transverse element are connected to each other through a transition region. In the case of known transverse elements, the transition region has the ***same curvature radius*** along its entire length.)*Specification, Page 1, Lines 27-33).*

In case of a relatively small value being chosen for the curvature radius of the transition region, for example 0.3 mm, an advantage is that a relatively large pulley sheave contact surface is obtained. Another advantage is that a relatively large supporting surface results.

However, there are also a number of disadvantages associated with the choice of a relatively small curvature radius. *(Specification, Page 1, Line 34 – Page 2, Line 3).* A first disadvantage is connected to the production process of the transverse elements. The transverse elements are formed from basic products being obtained by means of cutting. In practice, it was found that in the case of a relatively small curvature radius of the transition region, rough irregularities arise in region during further process steps, probably as a result of mutual contact between the basic products, or as a result of a finishing process. Transverse elements with such irregularities cause damage to the bands, especially in case of the assembly of the drive belt, when the carrier is pushed into a recess of the transverse element along the transition region.

Damage to the bands increases the chance of the bands breaking during operation and causing further damage to the transmission. (*Specification, Page 2, Lines 4-12).*

A second disadvantage is that a transition region having a relatively small curvature radius is more sensitive to damage than a transition region having a larger curvature radius. This effect is caused by (Hertz) contact tensions which are inversely proportional to the curvature radius, and which can occur in the transition region during finishing processes of the transverse elements and during assembly of the drive belt. Damage of the transition region can cause damage to the bands, as already indicated above. (*Specification, Page 2, Lines 13-19).*

Applying a larger curvature radius for the transition region offers a solution to the above-mentioned disadvantages, but results in a decreased surface area of the pulley sheave contact surface. A smaller pulley sheave contact surface is subject to greater frictional forces during operation, which cause wear and damage. Another disadvantage is that a decrease of the supporting surface occurs, in a similar manner. (*Specification, Page 2, Lines 20-24).*

The present invention overcomes the above cited disadvantages through employing a combination of two curvature radii to shape the transition region.

In the design of the present invention, adjacent the side of the supporting surface, the transition region has a relatively large curvature radius, for example 1.0 mm. This makes it easier to fit the drive belt into the recess of the transverse element, reducing the chance of damage to the bands occurring. (*Specification, Page 3, Lines 4-13).*

Near the side of the pulley sheave contact surface, the transition region has a relatively small curvature radius, for example 0.3 mm. Consequently, the pulley sheave contact surface is able to extend further before encountering the transition region. This presents the advantage of a

larger contact area between the pulley sheave contact surface and the pulley sheave, reducing frictional forces and associated wear. (*Specification, Page 3, Lines 4-13).*

The different curvature radii of the claimed invention provide an important improvement over transverse element designs in the prior art. In employing different curvature radii in the arrangement discussed above, the present invention enjoys the advantages inherent in each curvature radius without incurring the associated detriments.

In particular, independent Claim 1, which is being appealed, recites: "Transverse element (**Fig. 2** – element **23**) for a drive belt (**Fig. 1** – element **6**) for a continuously variable transmission (**Fig. 1** – element **1**) having two pulleys (**Fig. 1** – elements **4** and **5**) having an at least partially conical contact surface for pairwise enclosing of the drive belt (*Specification, Page 4, Lines 9-14*), each pulley being composed of two pulley sheaves (**Fig. 1** – elements **7**, **8**, **9**, and **10**), the drive belt (**Fig. 1** – element **6**) comprising two endless carriers (**Fig. 2** – element **20**) and transverse elements (**Fig. 2** – element **23**) which are placed against each other in axial direction of the drive belt (*Specification, Page 4, Lines 15-20*), wherein two subsequent transverse elements are tiltable relative to each other about a contact line (*Specification, Page 5, Lines 7-8*), and wherein the transverse elements on both sides are provided with a supporting surface for supporting a carrier (**Fig. 3a** – element **31**), which supporting surface transforms into a pulley sheave contact surface being designed to abut against a contact surface of a pulley sheave (*Specification, Page 1, Lines 16-17*), wherein a convex transition region is defined between the supporting surface and the pulley sheave contact surface and interconnects the supporting surface and the pulley sheave contact surface (*Specification, Abstract, Page 10, Lines 8-10*), and wherein the transition region comprises two parts having different curvature radii, wherein a first curvature radius of a first part at the side of the supporting surface is larger than a second

curvature radius of a second part at the side of the pulley sheave contact surface (*Specification, Page 2, Lines 27-32*)."

In particular, independent Claim 21, which is being appealed, recites: "Transverse element (**Fig. 2** – element **23**) for a drive belt (**Fig. 1** – element **6**) for a continuously variable transmission (**Fig. 1** – element **1**) having two pulleys (**Fig. 1** – elements **4** and **5**) having an at least partially conical contact surface for pairwise enclosing of the drive belt (*Specification, Page 4, Lines 9-14*), each pulley being composed of two pulley sheaves (**Fig. 1** – elements **7**, **8**, **9**, and **10**), the drive belt (**Fig. 1** – element **6**) comprising two endless carriers (**Fig. 2** – element **20**) and transverse elements (**Fig. 2** – element **23**) which are placed against each other in axial direction of the drive belt (*Specification, Page 4, Lines 15-20*), wherein two subsequent transverse elements are tiltable relative to each other about a contact line (*Specification, Page 5, Lines 7-8*), and wherein the transverse elements on both sides are provided with a supporting surface for supporting a carrier (**Fig. 3a** – element **31**), which supporting surface transforms into a pulley sheave contact surface being designed to abut against a contact surface of a pulley sheave (*Specification, Page 1, Lines 16-17*), wherein a convex transition region is defined between the supporting surface and the pulley sheave contact surface and interconnects the supporting surface and the pulley sheave contact surface (*Specification, Abstract, Page 10, Lines 8-10*), and wherein the transition region comprises two parts having different curvature radii, wherein a first curvature radius of a first part at the side of the supporting surface is larger than a second curvature radius of a second part at the side of the pulley sheave contact surface (*Specification, Page 2, Lines 27-32*), and wherein the first curvature radius is within a range of 0.5 mm to 3.0 mm (*Specification, Page 5, Lines 22-25*)."

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

One issue present for appeal is whether pending Claims 1-2 and 19-20 are properly rejected under 35 U.S.C. §102(a) as being anticipated by Japanese Patent No. 63-280946 to Natsushiro et al. (Natsushiro et al.).

Another issue present for appeal is whether pending Claims 5-18 and 21 are properly rejected under 35 U.S.C. §103(a) as being unpatentable over Natsushiro et al.

Another issue present for appeal is whether pending Claims 3-4 are properly rejected under 35 U.S.C. §103(a) as being unpatentable over Natsushiro et al. in view of US Patent No. 6,110,065 to Yagasaki et al. (Yagasaki et al.).

7. ARGUMENT

Overview

Claims 1-2 and 19-20 are rejected under 35 U.S.C. §102(a) by the figures of Natsushiro et al. It is the Appellant's contention and the basis of appeal the cited figures in Natsushiro et al. fail to disclose a transition region having two parts comprising different curvature radii recited in Claim 1 for three reasons: 1) the drawings are not to scale and cannot be interpreted to disclose proportions; 2) the drawings are too small to discern curvature radii; and 3) the Examiner has misinterpreted elements of the drawings.

Claims 5-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natsushiro et al. The rejection states that given the disclosure in Natsushiro et al., the ranges recited in Claims 5-18 and 21 would have been obvious, since discovering optimum or workable ranges involves routine skill in the art. However, this rejection fails to meet the *prima facie* requirements of a 35 U.S.C. 103(a) rejection, because Natsushiro et al. does not disclose the curvature radius of the transition region as a result effective variable.

Claims 3-4 are rejected under 35 U.S.C. §103(a) as being unpatentable over Natsushiro et al., in view of Yagasaki et al. However, the rejection of Claims 3-4 relies upon Natsushiro et al. disclosing all of the elements of Claim 1. Thus, if Natsushiro et al. fails to disclose all of the elements of Claim 1, rejection of Claim 1 as well as Claims 2-21 will be traversed.

Rejection under 35 U.S.C. § 102(a) over Natsushiro et al.

Claims 1-2 and 19-20

Claims 1-2 and 19-20 are rejected under 35 U.S.C. §102(a) by Natsushiro et al. However, Natsushiro et al. fails to disclose a transition region having two parts comprising different curvature radii as recited in Claim 1.

The Examiner alleges that Natsushiro et al. discloses a transition region comprising two parts having different curvature radii. However, the Examiner's rejection relies entirely upon reference to the **Figures** provided in Natsushiro et al.

The MPEP states that "drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art". *In re Aslanian*, 590 F.2d 911; MPEP 2125. In the present case, the drawings cannot be interpreted to reasonably disclose a transition region having different curvature radii for three reasons: 1) the drawings are not to scale and cannot be interpreted to disclose proportions; 2) the drawings are too small to discern curvature radii; and 3) the Examiner has misinterpreted elements of the drawings.

A. The Drawings are not to Scale

The Examiner bases the entirety of the 35 U.S.C. 102(a) rejection upon the **Figures** of Natsushiro et al. However, the Figures in Natsushiro et al. are not to scale and cannot be relied upon to disclose proportions. "When the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurements of the drawing features are of little value." *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956; MPEP §2125. The **Figures** of Natsushiro et al. do not disclose different curvature radii because the drawings are not to scale and the reference does not disclose the dimensions of such radii.

Natsushiro et al. is silent as to the dimensions of the curvature radius of the transition region. The **Figures** and the **Abstract** do not indicate any dimension for the curvature radius of the transition region. The Examiner provides no reference to any discussion of such dimensions. Thus, Natsushiro et al. is silent as to the matter.

The drawings in the **Figures** of Natsushiro et al. are clearly not to scale. For example, in **Figure 1**, the pulley sheave contact surfaces appear to be inclined at different angles, appear to

have different heights, and the right portion of the transverse element appears to be larger than the left. As the one of ordinary skill in the art might know, in practice, this is not possible. In general, **Figures 1**, **2**, and **3** do not appear to by symmetrical, let alone to scale. Furthermore, the curvature of the supporting surface in **Figures 1-4** and **9**, designated as element **2d**, seems to be greatly exaggerated compared **Figures 10** and **11**, where it is shown as being flat.

When drawings are not to scale, proportions of the features in the drawing cannot be used as disclosure of actual proportions. MPEP § 2125. The drawings in the **Figures** of Natsushiro et al. are clearly not to scale. Thus, Examiner cannot rely upon the Figures to show that Natsushiro et al. discloses a transition region having a larger curvature radius at the portion adjacent to supporting surface than the curvature radius at the portion adjacent the pulley contact surface.

B. The Transition Region is Too Small to Discern Curvature Radii

Regardless of whether or not the drawings are to scale, the **Figures** in Natsushiro et al. are extremely small, to the extent that accurate measurements of the transverse element cannot reliably be made. In the *Response to Arguments* section of the 28 November 2006 *Office Action*, Examiner states that in **Figure 1** Natsushiro et al. discloses a transition region between **2d** and **2b,** corresponding to the supporting surface and the pulley sheave contact surface of the claimed invention, respectively. Examiner further states that Natsushiro et al. discloses that the transition region has two curvature radii. However, given the small size of the drawings, one of ordinary skill in the art would not reasonably interpret the drawings as disclosing different curvature radii of the transverse element.

The drawing in **Figure 1** is crude and only two centimeters in size, when viewed on a standard sheet of paper. One of ordinary skill in the art would appreciate that in a transverse element the transition region is small in size relative to the supporting surface and pulley sheave

contact surface, and is generally defined as the "corner" where the two surfaces meet. Thus, in **Figure 1**, the transition region is only approximately one millimeter in size, when viewed on a standard sheet of paper.

Appellant contends that it is impossible to discern curvature radii of the transition region illustrated in **Figure 1** of Natsushiro et al., and thus the differences in curvature radii. It is not reasonable to state that a one millimeter segment of a drawing discloses two distinct curvature radii. If such radii are indeed found upon microscopic inspection, they are due to artifact in the execution of the drawing, rather than intentional design. More importantly, one of ordinary skill in the art would not view the drawing and interpret two different curvature radii in the transition region, given its extremely small size in the illustration.

C. Examiner is Misinterpreting the Figures

In the 07 June 2006 *Office Action***,** Examiner indicates in **Figures 1** and **2** the different curvature radii that Examiners believes Natsushiro et al. allegedly discloses. In the reference accompanying the *Office Action*, Examiner draws arrows pointing to the "larger radius" and "smaller radius". However, the Examiner's designation of different curvature radii in the **Figures** does not correspond to different curvature radii of the recited claim limitation of the ***transition region***.

In both **Figures 1** and **2**, the supporting surface is illustrated as having a large curvature radius throughout its length. The transition region is illustrated as having a substantially smaller curvature radius. The larger radius segment, designated by the Examiner's handdrawn reference, is actually part of the ***supporting surface***, and not the ***transition region***. The Examiner is misinterpreting the **Figures**, and incorrectly attributing the illustrated larger curvature radius to the transition region, when in fact that radius is clearly a part of, and constant throughout, the

supporting surface. Thus, Natsushiro et al. clearly does not disclose a transition region having two different curvature radii.

The misinterpretation is underlined by the Examiner's incorrect reference to element **2d** in the **Figures** of Natsushiro et al. as the transition region. In the body of the 35 U.S.C. §102(a) rejection of the 28 November 2006 *Office Action*, Examiner states that Natsushiro et al. "discloses the claimed invention (see figs. 1-2 and 3) including a convex transition region (2d)". In the English abstract, element **2d** is referred to as the lower saddle part. As is known by those of skill in the art of continuously variable transmissions, the term "saddle" is a common name for the surface supporting the carrier of the drive belt, not the transition region. Thus, the Examiner's erroneous conclusion that the transition region comprises different curvature radii is based upon misinterpreting the curvature radius of supporting surface, indicated by element **2d**, as part of the transition region.

The 35 U.S.C. 102(a) rejection of Claims 1 is improper because Natsushiro et al. does not disclose all of the elements of Claim 1. Specifically, Natsushiro et al. does not disclose a transition region having different curvature radii for the above stated reasons. Furthermore, the rejection of Claims 2 and 19-20 is improper, since these Claims depend upon and incorporate all of the limitations of Claim 1. Thus, Claims 1-2 and 19-20 are believed to be in condition for allowance.

Rejection under 35 U.S.C. §103(a) over Natsushiro et al.

Claims 5-18 and 21

Claims 5-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natsushiro et al. The rejection states that given the disclosure in Natsushiro et al., the ranges recited in Claims 5-18 and 21 would have been obvious, since discovering optimum or workable

ranges involves routine skill in the art. However, this rejection fails to meet the *prima facie* requirements of a 35 U.S.C. 103(a) rejection, because Natsushiro et al. does not disclose the curvature radius of the transition region as a result effective variable.

"A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." *In re Antonie*, 559 F.2d 618; MPEP §2144.05(II)(b).

Natsushiro et al. does not disclose the two different curvature radii of the transition region, let alone disclose the radii as a result effective variables. More importantly, the Examiner does not cite Natsushiro et al., or any other reference, as disclosing the curvature radii as being result effective. The reason for this is that prior to Appellant's discovery, the importance of varying the curvature radius of the transition region was not known. The prior art only recognized the width of the support surface and height of the pulley contact sheave surface as being result effective variables.

Furthermore, this rejection relies upon the assumption that Natsushiro et al. in fact discloses a transition region having different curvature radii. However, Natsushiro et al. fails to disclose a transition region having different curvature radii, for the reasons stated above. Therefore, Natsushiro et al. cannot form the basis of the 35 U.S.C. §103 rejection cited by the Examiner, since it does not disclose the elements that the Examiner argues it would have been obvious from the reference to optimize. Thus, Examiner has failed to establish a *prima facie* case of obviousness of the claimed ranges and the rejection is respectfully traversed.

<u>Rejection under 35 U.S.C. §103(a) over Natsushiro et al. in view of Yagasaki et al</u>

Claims 3-4

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over <u>Natsushiro et al.</u> in view of <u>Yagasaki et al.</u> The rejection states that it would have been obvious to combine a transition region having different curvature radii as disclosed in <u>Natsushiro et al.</u> with a corrugated pulley sheave contact surface as disclosed in <u>Yagasaki et al</u>. However, this rejection does not meet the basic requirements to establish *prima facie* case of obviousness. To establish a *prima facie* case of obviousness the prior art references must teach or suggest all the claim limitations. MPEP § 2143.

The rejection relies upon the assumption that <u>Natsushiro et al.</u> in fact discloses a transition region having different curvature radii. However, for the reasons stated above, <u>Natsushiro et al.</u> fails to disclose a transition region having different curvature radii. Clearly, the combination of the two references does not teach all the elements of Claims 3-4. Thus, the Examiner has failed to establish a *prima facie* case of obviousness, and the rejection is respectfully traversed.

8. CLAIMS APPENDIX

The following Claims (Claims 1-21) are the only pending Claims, and have been finally rejected and are on appeal. The status shown for the Claims are as of the *Amendment and Response* prior to the *Notice of Appeal*

1. (previously presented) Transverse element for a drive belt for a continuously variable transmission having two pulleys having an at least partially conical contact surface for pairwise enclosing of the drive belt, each pulley being composed of two pulley sheaves, the drive belt comprising two endless carriers and transverse elements which are placed against each other in axial direction of the drive belt, wherein two subsequent transverse elements are tiltable relative to each other about a contact line, and wherein the transverse elements on both sides are provided with a supporting surface for supporting a carrier, which supporting surface transforms into a pulley sheave contact surface being designed to abut against a contact surface of a pulley sheave, wherein a convex transition region is defined between the supporting surface and the pulley sheave contact surface and interconnects the supporting surface and the pulley sheave contact surface, and wherein the transition region comprises two parts having different curvature radii, wherein a first curvature radius of a first part at the side of the supporting surface is larger than a second curvature radius of a second part at the side of the pulley sheave contact surface.

2. (previously presented) Transverse element according to Claim 1, wherein the contact line intersects the pulley sheave contact surface.

3. (previously presented) Transverse element according to Claim 1, wherein the pulley sheave contact surface has a surface being corrugated by means of bulges, wherein the pulley sheave contact surface is connected to the second part of the transition region through a bulge.

4. (previously presented) Transverse element according to Claim 2, wherein the pulley sheave contact surface has a surface being corrugated by means of bulges, wherein the pulley sheave contact surface is connected to the second part of the transition region through a bulge.

5. (original) Transverse element according to Claim 1, wherein the first curvature radius is within a range of 0.5 mm to 3.0 mm.

6. (original) Transverse element according to Claim 2, wherein the first curvature radius is within a range of 0.5 mm to 3.0 mm.

7. (original) Transverse element according to Claim 3, wherein the first curvature radius is within a range of 0.5 mm to 3.0 mm.

8. (original) Transverse element according to Claim 4, wherein the first curvature radius is within a range of 0.5 mm to 3.0 mm.

9. (original) Transverse element according to Claim 5, wherein the first curvature radius is approximately 1.0 mm.

10. (original) Transverse element according to Claim 6, wherein the first curvature radius is approximately 1.0 mm.

11. (original) Transverse element according to Claim 7, wherein the first curvature radius is approximately 1.0 mm.

12. (original) Transverse element according to Claim 8, wherein the first curvature radius is approximately 1.0 mm.

13. (original) Transverse element according to Claim 1, wherein the second curvature radius is smaller than 1.0 mm.

14. (original) Transverse element according to Claim 2, wherein the second curvature radius is smaller than 1.0 mm.

15. (original) Transverse element according to Claim 3, wherein the second curvature radius is smaller than 1.0 mm.

16. (original) Transverse element according to Claim 4, wherein the second curvature radius is smaller than 1.0 mm.

17. (original) Transverse element according to Claim 13, wherein the second curvature radius is approximately 0.3 mm.

18. (original) Transverse element according to Claim 14, wherein the second curvature radius is approximately 0.3 mm.

19. (previously presented) The drive belt for the continuously variable transmission having two pulleys having an at least partially conical contact surface for pairwise enclosing of the drive belt, each pulley being composed of two pulley sheaves, the drive belt comprising two endless carriers and transverse elements according to any of the preceding claims, wherein the transverse elements are placed against each other in axial direction of the drive belt.

20. (previously presented) The continuously variable transmission, provided with the drive belt according to Claim 19.

21. (previously presented) Transverse element for a drive belt for a continuously variable transmission having two pulleys having an at least partially conical contact surface for pairwise enclosing of the drive belt, each pulley being composed of two pulley sheaves, the drive belt comprising two endless carriers and transverse elements which are placed against each other in axial direction of the drive belt, wherein two subsequent transverse elements are tiltable

relative to each other about a contact line, and wherein the transverse elements on both sides are provided with a supporting surface for supporting a carrier, which supporting surface transforms into a pulley sheave contact surface being designed to abut against a contact surface of a pulley sheave, wherein a convex transition region is defined between the supporting surface and the pulley sheave contact surface and interconnects the supporting surface and the pulley sheave contact surface, and wherein the transition region comprises two parts having different curvature radii, wherein a first curvature radius of a first part at the side of the supporting surface is larger than a second curvature radius of a second part at the side of the pulley sheave contact surface, and wherein the first curvature radius is within a range of 0.5 mm to 3.0 mm.

9. EVIDENCE APPENDIX

None.

10. RELATED PROCEEDINGS APPENDIX

None.

CONCLUSION

It is respectfully submitted that foregoing pending Claims 1-21 are patentable over the cited references. Reversal of the final rejections under 35 U.S.C. §§102 and 103, and issuance of a *Notice of Allowance* for pending Claims 1-21, are thus respectfully requested.

Respectfully submitted,

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